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File Code: 3420 **Date:** November 12, 2002
Route To:

Subject: Proposed White Mule Dwarf Mistletoe Suppression Project, Guadalupe Ranger District

To: Forest Supervisor, Lincoln National Forest

On November 5, David Conklin of our staff met with Dennis Dwyer (Sacramento RD) and Paul Schmidtke (Guadalupe RD) to evaluate the proposed White Mule dwarf mistletoe control project on the Guadalupe RD. The project would involve non-commercial thinning to reduce stem densities and dwarf mistletoe infection. This letter summarizes observations from this site visit and includes some suggestions for management of the area.

Proposed project area. The 100-acre project area is located in the southern end of the District, and is bounded by the Guadalupe Rim to the west, White Mule Ridge to the south and east, and Soldier Spring to the north. The forest is a mixture of ponderosa pine, Douglas-fir, piñon, junipers, various oaks, and occasional Southwestern white pine. Species composition varies considerably throughout the area, influenced primarily by aspect.

Densities vary from around 150 stems per acre on the ridge tops to over 1,000 per acre on some of the north-facing aspects. Overstocking is predominantly in sapling and small pole-size stems. Site quality is extremely low, with an estimated site index for ponderosa pine of about 30 on the ridge tops to perhaps 40 on the north slopes.

The ponderosa pine is heavily infected with dwarf mistletoe throughout most of the proposed treatment area. This was not readily apparent, because mistletoe shoot production was low. The relative scarcity of shoots was probably related to the poor site and perhaps the drought conditions of recent years.

A significant amount of ponderosa pine mortality has occurred in the past year or two, especially along the ridge tops. All of the faders we examined had bark beetle exit holes; removal of the bark revealed an abundance of *Ips* engraver galleries. Most of the dead pine had been heavily infected with dwarf mistletoe; the disease, along with drought stress, would have made these trees highly susceptible to beetle attack. The mortality did not appear to be related to high stem densities; in fact, most of it occurred on the ridge tops, which were relatively open (<50 square feet of basal area per acre).

About 100 acres of ponderosa pine, piñon, and juniper adjacent to the proposed project area (on the opposite side of Forest Road 540) had been thinned in the spring of 2001. It seems likely that the ponderosa pine slash from this project was a source (breeding ground) for *Ips* beetles that

later emerged to attack standing trees in the vicinity. Given the drought of recent years, it is probably fortunate that piñon slash from the spring thinning did not precipitate a similar outbreak.

Proposed treatment. The proposed treatment would be a thinning, primarily from below, retaining the best ponderosa pine and Douglas-fir (and white pine, where available), along with the larger mature oaks, piñon, and junipers. Stem densities would be reduced by 50 to 75 percent or more in most areas. A detailed prescription, prepared by Dennis, is on file. Because of the remote location, it is unlikely that much of the cut material would be removed from the site as fuelwood. Plans are to chip and/or pile and burn the slash.

Extensive dwarf mistletoe infection -- but with a paucity of mistletoe shoot production -- will make selection of good ponderosa pine leave trees difficult on this site. For this reason, Douglas-fir and white pine would be better choices for retention; unfortunately, only about half the proposed treatment area contains these species. This situation, along with the harsh site conditions, remote location, etc., makes this a difficult area to manage effectively and economically.

The main objectives/potential benefits of the project would be: 1) to reduce the potential for stand replacement fire here and in the surrounding landscape, and 2) to help prepare the stand for prescribed fire. The south end of the Guadalupe District has been heavily impacted by wildfires since 1990, destroying as much as 30 to 40 percent of the high-elevation ponderosa pine and mixed conifer forest type on the District. In response, the District is planning to increase its use of prescribed burning in this area. Potentially, fire -- including both prescribed underburning and prescribed natural fire -- could become the primary management tool for dwarf mistletoe in this remote area.

The proposed thinning project represents a proactive approach for management of this remote ecosystem. We recommend that any thinnings be conducted in the period from mid-July through December to reduce the potential for build-ups of *Ips* beetles. Slash and/or chips generated in the late winter, spring and early summer can attract beetles and lead to mortality in the standing trees, particularly during periods of drought. Please contact us if you have questions about this evaluation or need additional assistance.

/s/ Debra Allen-Reid
DEBRA ALLEN-REID
New Mexico Zone Leader,
Forest Health

cc: Dennis Dwyer, Paul Schmidtke, Leonard Lucero, Douglas L Parker, Jamie Kingsbury, John Anhold